ADDITIONAL NOTES ON THE <u>ERIOCAULACEAE</u>. XXXVIII

Harold N. Moldenke

ERIOCAULACEAE Lindl., Veg. Kingd. 122. 1847.

Additional synonymy: <u>Erdiocaulaceae</u> Anon., Biol. Abstr. 54 (1): B.A.S.I.C. S.184, sphalm. 1972.

Additional & emended bibliography: Pers., Sp. Pl. 1: 283—284 (1817) and 2: 464. 1819; Steud., Syn. Pl. Glum. 2: [Cyp.] 261, 267—283, 311, 332—334, 340, 342, & 347. 1855; Böck., Flora 56: 90—92. 1873; R. Schomb., Fl. S. Austr. 62. 1875; Benth. in Benth. & Hook. f., Gen. Pl. 3 (2): 863 & 1018—1025. 1883; Benth. & Hook. f., Gen. Pl. 3 (2): 1238, 1239, 1244—1246, 1249, 1250, 1252, & 1254—1256. 1883; T. R. Sims, Sketch & Check-list Fl. Kaffr. 80. 1894; Chiov. in Pirotta, Fl. Col. Erit. 1: [Ann. Inst. Bot. Roma 8:] 396. 1903; Wettst., Veg. Südbras. 54, pl. 56 & 57. 1904; Britton & Br., Illustr. Fl., ed. 2, pr. 1, 1: [iii], xxiii, 453—456, & [678]—680, fig. 1140—1145. 1913; Eames in Harger, Graves, Eames, Bissell, Andrews, & Weatherby, Rhodora 19: 126. 1917; Woodward, Rhodora 21: 116. 1919; Harger, Graves, Eames, Bissell, Andrews, & Weatherby, Bull. Conn. Geol. & Nat. Hist. Surv. 48: 35. 1930; Britton & Br., Illustr. Fl., ed. 2, pr. 2, 1: [iii], xxiii, 453—456, & [678]—680, fig. 1140—1145. 1936; Moldenke, Bull. Torrey Bot. Club 68: 67—70. 1940; Tharp, Veg. Tex. 47. 1939; Britton & Br., Illustr. Fl., ed. 2, pr. 3, 1: [iii], xxiii, 453—456, & [678]—680, fig. 1140—1145. 1943; A. C. Martin, Am. Midl. Nat. 36: 523, 533, 652, 654, & 659. 1946; Britton & Br., Illustr. Fl., ed. 2, pr. 4, 1: [iii], xxiii, 453—456, & [678]—680, fig. 1140—1145. 1947; Ohwi, Fl. Jap. [Jap. ed.] 261—267 & 1296. 1953; Goossens, Suid-Afrik. Blom. Pl. 224—225. 1953; Rambo, Sellowia 6: 130 & 156—158 (1954) and 7: 248, 263, 283, & 292. 1956; Darlington & Wylie, Chrom. Atl. 340. 1956; J. K. Jacks., Journ. Ecol. 44: 368. 1956; A. Robyns, Excerpt. Bot. A.1: 215. 1959; Reitz, Sellowia 13: 37, 52, 53, 72, & 90. 1961; Lind & Tallantire, Some Com. Flow. Pl. Uganda 198. 1962; Hylander, Fls. Field & Forest 54, 55, & 220, fig. 1. 1962; J. Hutchinson, Gen. Flow. Pl. 1: 41. 1964; W. K. Martin, Concise Brit. Fl. Pl. 90. 1965; Koyama in Ohwi, Fl. Jap. [Engl. ed.] 265—270. 1965; Batten & Bokelmann, Wild Fls. East. Cape Prov. 7, pl. 5.3. 1966; Rendle, Classif. Flow. Pl., ed. 2, 273—274, fig. 132. 1967; Rao & Kumari, Bull. Bot. Surv. India 9: 110 & 188—189. 1967; Ellis, Swaminathan, & Chandrabose, Bull. Bot. Surv. India 9: 3 & 15. 1967; Hotchkiss, Bur. Sports Fish. & Wildlife U. S. Dept. Int. Res. Publ. 44: [Underw. & Float. Pl.] 25. 1967; Mitra, Elem. Syst. Bot. Angiosp., ed. 2 abrdg., 165—166, fig. 78. 1967; Raynal, Adansonia, ser. 2, 8: 100. 1968; Leandri, Adansonia, ser. 2, 8: 144. 1968; Kapoor, Bull. Bot. Surv. India 10: 29. 1968; Das & Mukerjee, Bull. Bot. Soc. Bengal 23: 185. 1969; Anon., Pacif. Botanists Suppl. sub Moldenke. 1969;

Erdtman, Handb. Palynol. 102, 268, & 269, pl. 28: 6. 1969; Sandaru, Proc. 2nd Asian-Pacif. Weed Control Interchange 135—141. 1969; Bolkh., Grif, Matvej., & Zakhar., Chrom. Numb. Flow. Pl. 274. 1969; S. P. & R. N. Banerjee, Bull. Bot. Soc. Bengal 23: 170. 1969; C. C. Townsend, Excerpt. Bot. A.15 (6): 418. 1970; Jeanplong, Phyton 14: 94. 1970; Wise, Rhodora 72: 513. 1970; Dirven, Surinam. Landbouw 18 (2): 59. 1970; Britton & Br., Illustr. Fl., ed. 2, pr. 5, 1: [iii], xxiii, 453—456, & [678]—680, fig. 1140—1145. 1970; Soukup, Raymondiana 3: 32, 55, 74, 87, 89, & 95. 1970; Gaussen, Legris, Blasco, Meher-Homji, & Troy, Inst. Franç. Pond. Trav. Sec. Scient. & Techn., Hor. Ser., 10: 82 & 128. 1970; Reitz, Sellowia 22: 145. 1970; Thanikaimoni, Inst. Franç. Pond. Sec. Scient. & Techn. 11: [197], [199], [201], & 243. 1970; Blasco, Journ. Bombay Nat. Hist. Soc. 67: 525. 1970; Kulkarni & Desai, Journ. Bombay Nat. Hist. Soc. 67: 134—135, fig. 1—8. 1970; Hocking, Excerpt. Bot. A.16: 38—40. 1970; N. F. Good, Biol. Abstr. 52: 8223. 1971; "S. R. L.", Biol. Abstr. 52: 8223. 1971; Cusick, Castanea 35: 323. 1971; Guillarmod, Fl. Lesotho 39, 43, 48, 134, & 316. 1971; Brown & Wherry, Bartonia 40: 6. 1971; Inamdar & Patel, Indian Forest. 97: 330. 1971; Anon., Assoc. Etud. Tax. Fl. Afr. Trop. Index 1970: 25. 1971; Podlech in K. Rech., Fl. Iran. 89: Erioc. [1]. 1971; Cuf., Bull. Jard. Bot. Belg. 41 (3): Suppl. 1506—1507. 1971; Blasco, Inst. Franç. Pond. Trav. Sec. Scient. & Techn. 10: 94, 115, 117, 121, 123, 124, 260, & 401, fig. 12. 1971; Dwyer, Raymondiana 4: 27. 1971; Hocking, Excerpt. Bot. A.19: 42—43. 1971; Moldenke, Excerpt. Bot. A.19: 43. 1971; I. K. & L. F. Ferguson, Watsonia 8: 400. 1971; Halliday, Watsonia 8: 401. 1971; Satake, Journ. Jap. Bot. 46: 109—111, fig. 1 & 2. 1971; Mueller-Dombois & Perera, Ceylon Journ. Sci. Biol. 9: 13 & 17. 1971; Moldenke, Phytologia 21: 426—432, 504—506, 508, 509, & 512. 1971; Moldenke, Biol. Abstr. 52: 5935, 9948, & 10547. 1971; Anon., Biol. Abstr. 52 (11): B.A.S.I.C. S.88 (1971), 52 (15): B.A.S.I.C. S.86 (1971), 52 (18): B.A.S.I.C. S.87 (1971), and 52 (19): B.A.S.I.C. S.143, S.196, & S.248. 1971; Pedley & Isbell, Proc. Roy. Soc. Queensl. 82 (5): 66. 1971; Satake in Hara, Univ. Mus. Univ. Tokyo Bull. 2: 156—160, fig. 9—12. 1971; Venter, Journ. S. Afr. Bot. 37 (2): 105. 1971; Long & Lakela, Fl. Trop. Fla. 31, 259—262, 930, 931, 938, 942, 944, & 958. 1971; Moldenke, Excerpt. Bot. A.18: 445 & 446. 1971; Hocking, Excerpt. Bot. A.18: 444 (1971) and A.19: 42—43. 1971; J. K. Jacks. in Eyre, World Veget. Types 102. 1971; Kemp, Weed Abstr. 20: 78. 1971; Koyama, Rhodora 73: 159. 1971; Adjanohoun, Bull. Jard. Bot. Nat. Belg. 41: 121. 1971; Satake, Journ. Jap. Bot. 46: 372—373. 1971; Balapure, Journ. Bombay Nat. Hist. Soc. 68: 365—366 & 374. 1971; Moldenke, Fifth Summ. 1: 2, 4, 7, 8, 14—26, 28—33, 36, 39—41, 47, 48, 52, 55, 64, 69, 72, 79, 81—83, 87—91, 95—99, 103, 111, 112, 116, 118—120, 123—134, 136, 137, 140, 142, 143, 148—150, 153—155, 157—169, 171—177, 180, 182—185, 187, 189, 192, 195, 200, 203, 208—219, 221, 222, 224—227, 230, 231, 233, 234, 237—241, 243, 244, 246—249, 251—254, 256, 257, 261, 262, 264, 265, 268, 270, 271, 273—276, 280, 281, 283, 285, 288, 289, 292—296, 300, 301, 305, 307—313, 316, 319,

320, 324, 330, 336, 338, 339, 341, 346, 349, 362, 366, 369, 375—377, 395, 397, 398, 403, 422, 424, 438, 468, 469, & 475—487 (1971) and 2: 491—518, 523, 525, 531, 533, 534, 546—549, 569, 571—573, 577—593, 600, 604, 614—616, 618, 619, 623, 632—639, 642—645, 738—749, 764, 765, 767, 769, 773, 774, 776—778, 784, 789, 791—794, 932—969, & 972—974. 1971; Moldenke, Phytologia 23: 181 & 211. 1971; C. D. Adams, Flow. Pl. Jam. 22, 41, & 816. 1972; Soukup, Biota 9: 19. 1972; A. L. Moldenke, Phytologia 23: 317 & 318. 1972; Seymour, Phytologia 23: 449. 1972; Moldenke, Phytologia 23: 181, 197, 211, 317, 318, 413, 414, 416—418, 420—422, 424, 425, 430, 431, 434, 449, 454, 506, 508, & 509. 1972; Anon., Biol. Abstr. 53 (9): B.A.S.I.C. S.87 (1972), 53 (10): B.A.S.I.C. S.29, S.39, S.85, S.178, S.189, & S.196 (1972), 54 (1): B.A.S.I.C. S.88 & S.184 (1972), and 54 (3): B.A.S.I.C. S.87, S.184, & S.189. 1972; Hotchkiss, Common Marsh Underw. & Float. Pl. [2]: 25. 1972; Mohlenbrock, Illustr. Fl. Ill. Grasses Brom. Pasp. 17. 1972; Moldenke, Biol. Abstr. 53: 5252 & 5263 (1972) and 54: 65, 1189, & 1725. 1972; Shehatz, Biol. Abstr. 53: 4689. 1972; Anon., Assoc. Etud. Tax. Fl. Afr. Trop. Index 1971: 27. 1972; "D. J. P.", Biol. Abstr. 54: 75. 1972; Whitehead & Thirumalachar, Biol. Abstr. 54: 71. 1972; Whitehead & Thirumalachar, Mycologia 64: 124, 126, & 128, fig. 2. 1972; C. K. Shah, Biol. Abstr. 54: 1109. 1972; Tomlinson & Fawcett, Journ. Arnold Arb. 53: 389. 1972.

Erdtman (1969) says "This family, which belongs to the monocotyledons, has spirotreme pollen grains, i.e., the exine consists of one or more spiral pieces, held together by one of several thin, leptoma- or colpus-like bands (membranes). Pollen grains of somewhat similar type occur, inter alia, in the west-Mediterranean liliaceous genus Aphyllanthes."

Sims (1894) refers to this family as the Eriocaulineae in the Liliaceae; Rendle (1967) places it, as do most modern authors, in the Order Farinosae. He asserts that the male flowers are outside in the head [at the periphery] and the female inside [toward the center], or vice versa, the heads opening centripetally and either falling as a whole in the fruiting stage or else the individual florets scatter their fruit.

The genus Reilia Steud., Syn. Pl. Glum. 2: [Cyp.] 311 (1855) is reduced to Eryngium in the Ammiaceae by Bentham in Benth. & Hook. f., Gen. Pl. 3 (2): 863 (1883), but Airy Shaw in J. C. Willis, Dict. Flow. Pl., ed. 7, 956 (1966) says for it "Inc. sed. (?Juncac. ?Eriocaulac.), 1 Argentina". The only species is R. eryngioides Steud. To me it does not seem to be eriocaulaceous, but may very well belong in the Juncaceae.

BLASTOCAULON Ruhl. in Engl., Pflanzenreich 13 (4-30): 223. 1903.

Additional bibliography: Hocking, Excerpt. Bot. A.16: 38—40 (1970) and A.19: 43. 1971; Moldenke, Phytologia 21: 267—268, 426, & 504. 1971; Moldenke, Excerpt. Bot. A.18: 445 & 446. 1971; Moldenke, Biol. Abstr. 52: 9948. 1971; Anon., Biol. Abstr. 52 (18): B.A.S.I.C. S.29 & S.87. 1971; Moldenke, Fifth Summ. 1: 147, 397,

398, 477, & 484 (1971) and 2: 492, 511, 577, 589, 590, 600, 638, & 932. 1971; Anon., Biol. Abstr. 53 (10): B.A.S.I.C. S.29, S.39, & S.85. 1972; Moldenke, Biol. Abstr. 53: 5263. 1972.

BLASTOCAULON ALBIDUM (G. Gardn.) Ruhl. in Engl., Pflanzenreich 13 (4-30): 225. 1903.

Additional bibliography: Moldenke, Phytologia 20: 340. 1970; Hocking, Excerpt. Bot. A.16: 38 & 39 (1970) and A.19: 43. 1971; Moldenke, Fifth Summ. 1: 147, 397, & 477 (1971) and 2: 492, 577, 600, & 932. 1971.

Mexia describes this plant as an abundant herb with white flowers, forming colonies in damp sand under overhanging rocks at 1260 meters altitude, flowering in May. Pereira also describes it as forming pure-stand colonies.

Additional citations: BRAZIL: Minas Gerais: Hatschbach, Smith, & Ayensu 29028 (Z); Mexia 5779 (B, Ca—509143, Go, Mi, N, Ut—50252a, Vi, W—1571904); Pereira 2802 [Pabst 3638] (Bd—3847, Rf).

BLASTOCAULON PROSTRATUM (Körn.) Ruhl. in Engl., Pflanzenreich 13 (4-30): 224—225. 1903.

Additional bibliography: Hocking, Excerpt. Bot. A.16: 39 & 40. 1970; Moldenke, Phytologia 21: 426. 1971; Moldenke, Fifth Summ. 1: 147, 397, & 484 (1971) and 2: 589, 600, & 932. 1971; Anon., Biol. Abstr. 53 (10): B.A.S.I.C. S.29 & S.39. 1972; Moldenke, Biol. Abstr. 53: 5263. 1972.

The Pabst 3638 and Pereira 2802, previously cited by me as B. prostratum, seem actually to be B. albidum (G. Gardn.) Ruhl. instead.

Additional citations: BRAZIL: Minas Gerais: Irwin, Fonsêca, Souza, Reis dos Santos, & Ramos 27099 (N).

BLASTOCAULON RUPESTRE (G. Gardn.) Ruhl. in Engl., Pflanzenreich 13 (4-30): 223—224. 1903.

Additional bibliography: Hocking, Excerpt. Bot. A.16: 39 (1970) and A.19: 43. 1971; Moldenke, Phytologia 21: 268. 1971; Moldenke, Fifth Summ. 1: 147, 397, & 398 (1971) and 2: 511, 590, 600, 638, & 932. 1971.

The Mexia 5779, distributed as previously cited by me as B. rupestre, seems actually to be B. albidum (G. Gardn.) Ruhl. instead.

BLASTOCAULON SPELEICOLA Alv. Silv., Fl. Mont. 1: 274—276, pl. 182. 1928.

Additional bibliography: Moldenke, Phytologia 18: 165. 1969; Hocking, Excerpt. Bot. A.16: 38 & 39. 1970; Moldenke, Fifth Summ. 1: 147 (1971) and 2: 932. 1971.

CARPTOTEPALA Moldenke in Steyerm., Fieldiana Bot. 28: 114. 1951.

Additional bibliography: Hocking, Excerpt. Bot. A.16: 38 (1970) and A.19: 43. 1971; Moldenke, Phytologia 21: 426. 1971; Moldenke, Fifth Summ. 1: 122, 129, & 422 (1971) and 2: 579, 584, 746, & 932. 1971; Moldenke, Excerpt. Bot. A.18: 446. 1971; Moldenke, Biol. Ab-

str. 52: 9948. 1971; Anon., Biol. Abstr. 52 (18): B.A.S.I.C. S.29, S.40, S.55, & S.87 (1971) and 53 (10): B.A.S.I.C. S.29, S.39, & S.85. 1972; Moldenke, Biol. Abstr. 53: 5263. 1972.

CARPTOTEPALA JENMANI (Gleason) Moldenke, Mem. Torrey Bot. Club 9: 278. 1957.

Additional bibliography: Hocking, Excerpt. Bot. A.16: 38. 1970; Moldenke, Phytologia 21: 426. 1971; Moldenke, Fifth Summ. 1: 122, 129, & 422 (1971) and 2: 579, 584, & 932. 1971; Anon., Biol. Abstr. 53 (10): B.A.S.I.C. S.39 & S.85. 1972; Moldenke, Biol. Abstr. 53: 5263. 1972.

COMANTHERA L. B. Sm., Contrib. Gray Herb., ser. 2, 117: 38. 1937.

Additional bibliography: Moldenke, Biol. Abstr. 51: 9023. 1970; Hocking, Excerpt. Bot. A.16: 38 & 39 (1970) and A.19: 43. 1971; Moldenke, Phytologia 21: 268 & 505. 1971; Moldenke, Fifth Summ. 1: 122, 129, 132, 148, 468, & 482 (1971) and 2: 585, 635, 637, 746, & 932. 1971; Moldenke, Biol. Abstr. 52: 9948. 1971; Anon., Biol. Abstr. 52 (18): B.A.S.I.C. S.29, S.40, S.55, & S.87. 1971.

COMANTHERA KEGELIANA (Körn.) Moldenke, Phytologia 13: 218. 1966.

Additional bibliography: Moldenke, Phytologia 20: 246. 1970; Hocking, Excerpt. Bot. A.16: 38 (1970) and A.19: 43. 1971; Moldenke, Fifth Summ. 1: 122, 129, 132, 148, 468, & 482 (1971) and 2: 585, 635, 637, & 932. 1971.

ERIOCAULON Gron. ex L., Sp. Pl., ed. 1, pr. 1, 1: 87. 1753.

Additional bibliography: Pers., Sp. Pl. 1: 283—284 (1817) and 2: 464. 1819; R. Schomb., Fl. S. Austr. 62. 1875; T. R. Sims, Sketch & Check-list Fl. Kaffr. 80. 1894; Chiov. in Pirotta, Fl. Col. Erit. 1: [Ann. Inst. Bot. Roma 8:] 396. 1903; Wettst., Veg. Südbras. 54, pl. 56 & 57. 1904; Eames in Harger, Graves, Eames, Bissell, Andrews, & Weatherby, Rhodora 19: 126. 1917; Woodward, Rhodora 21: 116. 1919; Harger, Graves, Eames, Bissell, Andrews, & Weatherby, Bull. Conn. Geol. & Nat. Hist. Surv. 48: 35. 1930; Tharp, Veg. Tex. 47. 1939; A. C. Martin, Am. Midl. Nat. 36: 533 & 652. 1946; Ohwi, Fl. Jap., [Jap. ed.], 261—267 & 1296. 1953; Goossens, Suid-Afrik. Blom Pl. 225. 1953; Rambo, Sellowia 6: 130 & 156—158 (1954) and 7: 248 & 283. 1956; Reitz, Sellowia 7: 124. 1956; Darlington & Wylie, Chrom. Atl. 340. 1956; J. K. Jacks., Journ. Ecol. 44: 368. 1956; Reitz, Sellowia 13: 52, 53, 72, & 90. 1961; Hylander, Fls. Field & Forest 54, 55, & 220, fig. 1. 1962; W. K. Martin, Concise Brit. Fl. pl. 90. 1965; Koyama in Ohwi, Fl. Jap., [Engl. ed.], 265—270. 1965; Batten & Bokelman, Wild Fls. East. Cape Prov. 7, pl. 5.3. 1966; Mitra, Elem. Syst. Bot. Angiosp., ed. 2 abrdg., 165—166, fig. 78. 1967; Rao & Kumari, Bull. Bot. Surv. India 9: 110 & 188—189. 1967; Ellis, Swaminathan, & Chandrabose, Bull. Bot. Surv. India 9: 3 & 15. 1967; Kapoor, Bull. Bot. Surv. India 10: 29. 1968; Raynal, Adansonia, new ser., 8: 100. 1968; Adam, Adansonia, new ser., 8: 445. 1968; Bolkh., Grif, Matvej., & Zakhar, Chrom. Numb. Flow. Pl. 274. 1969; Erdtman, Handb. Palynol.

102, 268, & 269, pl. 28: 6. 1969; Jundaru, Proc. 2nd Asian-Pacif. Weed Control Interchange 135--141. 1969; S. P. & R. N. Banerjee, Bull. Bot. Soc. Bengal 23: 170. 1969; Das & Mukerjee, Bull. Bot. Soc. Bengal 23: 185. 1969; C. C. Townsend, Excerpt. Bot. A.15: 418. 1970; Hocking, Excerpt. Bot. A.16L 38--40. 1970; Britton & Br., Illustr. Fl., ed. 2, pr. 5, 1: 453--455, [678], & 679, fig. 1140--1143. 1970; Soukup, Raymondiana 3: 32 & 55. 1970; Gaussen, Legris, Blasco, Meher-Homji, & Troy, Inst. Franç. Pond. Trav. Sec. Scient. & Techn., Hor. ser., 10: 82 & 128. 1970; Reitz, Sellowia 22: 51. 1970; Blasco, Journ. Bombay Nat. Hist. Soc. 67: 525. 1970; Kulkarni & Desai, Journ. Bombay Nat. Hist. Soc. 67: 134--135, fig. 1--8. 1970; Podlech in K. Rech., Fl. Iran 89: Erioc. [1]. 1971; Brown & Wherry, Bartonia 40: 6. 1971; Inamdar & Patel, Indian Forest. 97: 330. 1971; Anon., Biol. Abstr. 52 (15): B.A.S.I.C. S.86. 1971; Anon., Assoc. Etud. Tax. Fl. Afr. Trop. Index 1970: 25. 1971; Cusick, Castanea 35: 323. 1971; N. F. Good, Biol. Abstr. 52: 8223. 1971; Guillarmod, Fl. Lesotho 39, 43, 134, & 316. 1971; Moldenke, Phytologia 21: 426--432, 504, & 506. 1971; Moldenke, Biol. Abstr. 52: 5935 & 9948. 1971; Anon., Biol. Abstr. 52 (11): B.A.S.I.C. S.88 (1971) and 52 (18): B.A.S.I.C. S.40, S.55, & S.87. 1971; Pedley & Isbell, Proc. Roy. Soc. Queensl. 82 (5): 66. 1971; Cuf., Bull. Jard. Bot. Nat. Belg. 41 (3): Suppl. 1506--1507. 1971; Venter, Journ. S. Afr. Bot. 37 (2): 105. 1971; Long & Lakela, Fl. Trop. Fla. 259--261, 938, & 942. 1971; Hocking, Excerpt. Bot. A.18: 444 (1971) and A.19: 42--43. 1971; Moldenke, Excerpt. Bot. A.18: 445 & 446. 1971; Kemp, Weed Abstr. 20: 78. 1971; Adjanohoun, Bull. Jard. Bot. Nat. Belg. 41: 121. 1971; J. K. Jacks. in Eyre, World Veget. Types 102. 1971; Satake, Journ. Jap. Bot. 46: 109--111, fig. 1 & 2, & 372--373. 1971; Blasco, Inst. Franç. Pond. Trav. Sec. Scient. Techn. 10: 94, 115, 117, 121, 123, 124, 260, & 401, fig. 12. 1971; Dwyer, Raymondiana 4: 27. 1971; I. K. & L. F. Ferguson, Watsonia 8: 400. 1971; Halliday, Watsonia 8: 401. 1971; Balapure, Journ. Bombay Nat. Hist. Soc. 68: 365 & 374. 1971; Mueller-Dombois & Perera, Ceylon Journ. Sci. Biol. 9: 13. 1971; Moldenke, Fifth Summ. 1: 14--22, 24, 26, 28, 31--33, 36, 39--41, 47, 48, 52, 55, 64, 69, 79, 81, 83, 87, 90, 95, 96, 98, 99, 111, 116, 123, 129, 132, 133, 136, 140, 149, 150, 180, 182, 185, 189, 195, 203, 208--212, 214--219, 221--224, 226, 227, 230. 233, 234, 237. 239--241, 243, 246--249, 251, 253, 254, 256, 261, 264, 265, 268, 270, 271, 273--276, 280, 281, 283, 285, 288, 289, 292--296, 298, 300, 301, 305, 207--313, 316, 319, 320, 323, 324, 330, 336, 338, 339, 341, 346, 349, 362, 375, 376, 403, 424, 475, & 482 (1971) and 2: 491--518, 523, 525, 533, 546, 548, 571--573. 577, 580, 585--587, 590--594, 615, 616, 619, 623, 625, 632, 634--637, 645, 739--745, 764, 765, 767, 773, 774, 776--778, 784, 791, 792, 968, 969, & 972. 1971; C. D. Adams, Flow. Pl. Jam. 41 & 816. 1972; Soukup, Biota 9: 19. 1972; Seymour, Phytologia 23: 449. 1972; Moldenke, Phytologia 23: 413, 414, 416--418, 420--422, 424, 425, 430, 431, 449, & 506 (1972) and 24: 169. 1972; Moldenke, Biol. Abstr. 53: 5252 & 5263. 1972; Shehatz, Biol. Abstr. 53: 4689. 1972; Anon., Biol. Abstr. 53 (9):

B.A.S.I.C. S.87 (1972), 53 (10: B.A.S.I.C. S.39 & S.85 (1972), and 54 (1): B.A.S.I.C. S.88. 1972; "D. J. P.", Biol. Abstr. 54: 75. 1972; Whitehead & Thirumalachar, Biol. Abstr. 54: 71. 1972; Whitehead & Thirumalachar, Mycologia 64: 124, 126, & 128, fig. 2. 1972.

Martin (1946) confirms that the seeds of this genus contain endosperm. Guillarmod (1971) tells us that in Lesotho this genus inhabits marshy areas in the mountains rather than in the lowlands and also in boggy situations in the valley heads, growing with Kniphofia caulescens, Athrixia fontana, Anagallis huttonii, Lobelia galpinii, and a tall Carex. Tharp (1939) says that in Texas it occupies the longleaf pine, oak-hickory, and pine-oak associations. Long & Lakela (1971) give "hat-pins" as the common name for the genus as a whole. Adjanohoun (1971) asserts that it is found only in very special vegetation on granite domes in the Ivory Coast and is there in great need of conservation.

ERIOCAULON ABYSSINICUM Hochst., Flora 28: 341. 1845.

Additional synonymy: Eriocaulon richardi Körn. ex Schweinf., Beitr. Fl. Aethiop. 309, hyponym. 1867. Eriocaulon richardii Körn. apud Ruhl. in Engl., Bot. Jahrb. 27: 85, hyponym. 1899. Eriocaulon sexangulare Auct. ex Cuf., Bull. Jard. Bot. Nat. Belg. 41 (3): Suppl. 1506, in syn. 1971 [not E. sexangulare Auct. ex Ruhl., 1903, nor Burm. f., 1826, nor Fyson, 1959, nor Heyne, 1832, nor. L., 1753, nor (L.) Auct., 1969, nor Mart., 1893, nor Willd., 1841].

Additional & emended bibliography: Chiov. in Pirotta, Fl. Col. Erit. 1: [Ann. Inst. Bot. Roma 8:] 396. 1903; Moldenke, Biol. Abstr. 51: 9023. 1970; Hocking, Excerpt. Bot. A.16: 38 & 39 (1970) and A.19: 43. 1971; Moldenke, Excerpt. Bot. A.18: 445. 1971; Moldenke, Phytologia 21: 427. 1971; Moldenke, Fifth Summ. 1: 212, 222, 243, 254, & 256 (1971) and 2: 932. 1971; Guillarmod, Fl. Lesotho 134 & 316. 1971; Moldenke, Phytologia 23: 421, 430, & 431. 1972.

Guillarmod (1971) records the vernacular name "se-ea-le-metsi" for this plant, cites Dieter 777 in the herbaria at Kew, Maseru, Pretoria, and Strasbourg, and gives its overall South African distribution as "E. Cape, Natal, Transvaal, Swaziland: in marshy situations". Chiovenda (1903) cites Pappi 182, 782, & 2257 from Eritrea, growing at 1800—2300 m. altitude, and flowering in September and October.

ERIOCAULON ACANTHOCEPHALUM W. Griff., Notul. 3: 116—118. 1851.

Additional bibliography: Moldenke, Phytologia 20: 342. 1970; Hocking, Excerpt. Bot. A.16: 39. 1970; Moldenke, Fifth Summ. 1: 375 (1971) and 2: 932. 1971.

ERIOCAULON ACHITON Körn., Linnaea 27: 630—631. 1856.

Additional bibliography: Fyson, Journ. Indian Bot. 1: 50 & 53. 1919; Moldenke, Phytologia 20: 342. 1970; Hocking, Excerpt. Bot.

A.16: 39. 1970; Moldenke, Fifth Summ. 1: 268, 271, 273, 295, & 300 (1971) and 2: 511, 514, & 932. 1971.

Recent collectors have found this plant growing in evergreen forests in Thailand, flowering in November, and fruiting in October and November (in addition to months previously reported by me in this series of notes).

Additional citations: THAILAND: Charoenphol, Larsen, & Warncke 4232 (Ac), 4806 (Ac).

ERIOCAULON ADAMESII Meikle, Kew Bull. 1948: 472--473. 1948.

Additional bibliography: Moldenke, Phytologia 20: 342. 1970; Moldenke, Fifth Summ. 1: 214, 216, 218, & 219 (1971) and 2: 932. 1971.

ERIOCAULON AEQUINOCTIALE Ruhl. in Engl., Pflanzenreich 13 (4-30): 47. 1903.

Additional bibliography: Moldenke, Phytologia 17: 477—478. 1969; Moldenke, Fifth Summ. 1: 123 (1971) and 2: 932. 1971.

ERIOCAULON AFRICANUM Hochst., Flora 28: 340. 1845.

Additional bibliography: T. R. Sims, Sketch & Check-list Fl. Kaffr. 80. 1894; Moldenke, Phytologia 20: 6. 1970; Moldenke, Fifth Summ. 1: 247, 253, & 256 (1971) and 2: 932. 1971.

ERIOCAULON AFZELIANUM Wikstr. ex Körn. in Miq., Ann. Mus. Bot. Lugd. 3: 164. 1867.

Additional bibliography: Moldenke, Phytologia 20: 342. 1970; Moldenke, Fifth Summ. 1: 211, 214, 216, 218, 219, 222, & 226 (1971) and 2: 492, 493, 504, & 932. 1971.

It should be recorded here that the Adam 15887, cited by me in a previous installment of these notes as deposited in my personal herbarium, is now in the Aarhus University herbarium (Ac), while Adam 15922 is now in the Texas Research Foundation herbarium (Rf), and Adam 18527 is in the Fairchild Tropical Garden herbarium (Ft).

ERIOCAULON ALLEIZETTEI Moldenke, Phytologia 4: 177—178. 1953.

Additional bibliography: Moldenke, Phytologia 17: 478. 1969; Moldenke, Fifth Summ. 1: 261 (1971) and 2: 932. 1971.

ERIOCAULON ALPESTRE Hook. f. & Thoms. ex Körn. in Miq., Ann. Mus. Bot. Lugd. 3: 163. 1867.

Additional bibliography: Fyson, Journ. Indian Bot. 1: 50, 51, & 53, fig. 8. 1919; Moldenke, Phytologia 20: 342. 1970; Moldenke, Fifth Summ. 1: 271, 274, 288, 295, 300, 307, 309, 316, & 424 (1971) and 2: 492, 493, 500, 504, & 932. 1971.

Additional illustrations: Fyson, Journ. Indian Bot. 1: 51, fig. 8. 1919.

ERIOCAULON ALPESTRE var. AMPULLARIUM Van Royen, Blumea 10: [126]—129, fig. 1A. 1960.

Additional bibliography: Moldenke, Phytologia 20: 342. 1970;

Moldenke, Fifth Summ. 1: 316 (1971) and 2: 493 & 932. 1971.

ERIOCAULON ALPINUM Van Royen, Nov. Guin., new ser., 10: 39—40, fig. 1a. 1959.
Additional bibliography: Moldenke, Phytologia 20: 342. 1970; Moldenke, Fifth Summ. 1: 336 (1971) and 2: 932. 1971.

ERIOCAULON ALTOGIBBOSUM Ruhl. in Pilg., Engl. Bot. Jahrb. 30: 146. 1901.
Additional bibliography: Moldenke, Phytologia 19: 14. 1969; Moldenke, Fifth Summ. 1: 149 (1971) and 2: 932. 1971.

ERIOCAULON AMANOANUM Koyama, Journ. Jap. Bot. 31: 9—11, fig. 3. 1956.
Additional bibliography: Moldenke, Phytologia 17: 479. 1969; Moldenke, Fifth Summ. 1: 309 & 311 (1971) and 2: 932. 1971.

ERIOCAULON AMBOENSE Schinz, Bull. Herb. Boiss., ser. 1, 4, app. 3: 35. 1896.
Additional bibliography: Moldenke, Phytologia 20: 342. 1970; Moldenke, Fifth Summ. 1: 214, 216, 243, 247, 253, & 256 (1971) and 2: 493 & 932. 1971.

ERIOCAULON ANDONGENSE Welw. ex Rendle, Cat. Afr. Pl. Welw. 2 (1): 100. 1899.
Additional bibliography: Moldenke, Phytologia 20: 342. 1970; Moldenke, Fifth Summ. 1: 243 & 253 (1971) and 2: 932. 1971.

ERIOCAULON ANGUSTIFOLIUM Körn., Linnaea 27: 600, nom. nud. (1856) and in Mart., Fl. Bras. 3 (1): 495—496. 1863.
Additional bibliography: Moldenke, Phytologia 20: 342. 1970; Moldenke, Fifth Summ. 1: 149 (1971) and 2: 932. 1971.

ERIOCAULON ANGUSTISEPALUM H. Hess, Bericht. Schweiz. Bot. Gesell. 65: 160, fig. 7 & 8, & 169—174, pl. 9, fig. 2, 6, & 7. 1955.
Additional bibliography: Moldenke, Phytologia 20: 342. 1970; Moldenke, Fifth Summ. 1: 243 & 247 (1971) and 2: 493 & 932. 1971.

ERIOCAULON ANNAMENSE H. Lecomte, Fl. Gén. Indo-Chine 7: 5—6. 1912.
Additional bibliography: Moldenke, Phytologia 20: 343. 1970; Moldenke, Fifth Summ. 1: 300 (1971) and 2: 932. 1971.

ERIOCAULON ANNUUM Milne-Redhead in Hook., Icon. Pl. 34: pl. 3389. 1939.
Additional bibliography: Moldenke, Phytologia 20: 343. 1970; Moldenke, Fifth Summ. 1: 216, 237, 239, 246, & 247 (1971) and 2: 932. 1971.

ERIOCAULON ANTUNESII Engl. & Ruhl. ex Ruhl. in Engl., Bot. Jahrb. 27: 76—77. 1899.
Additional bibliography: Moldenke, Phytologia 20: 343. 1970; Moldenke, Fifth Summ. 1: 210, 214, 219, & 243 (1971) and 2: 493 &

932. 1971.

ERIOCAULON APICULATUM H. Lecomte, Bull. Soc. Bot. France 55: 572. 1908.

Additional bibliography: Moldenke, Phytologia 18: 77. 1969; Moldenke, Fifth Summ. 1: 261 (1971) and 2: 493 & 932. 1971.

ERIOCAULON AQUATICUM (J. Hill) Druce, Pharmaceut. Journ. [London] 83 [ser. 4, 29]: 700. 1909.

Additional synonymy: Eriocaulon septangularae Sm. ex Patel & Patel, Vidya 7: [58] & 62--66. 1964.

Additional & emended bibliography: C. P. Clinton, Rhodora 3: 79--82, fig. 1 & 2. 1901; Fyson, Journ. Indian Bot. 1: 52 & 53, fig. 10 & 11. 1919; A. C. Martin, Am. Midl. Nat. 36: 533. 1946; Hylander, Fls. Field & Forest 54, 55, & 220, fig. 1. 1962; W. K. Martin, Concise Brit. Fl. pl. 90. 1965; Rendle, Classif. Flow. Pl., ed. 2, 1: 274, fig. 132. 1967; Bolkh., Grif, Matvej., & Zakhar., Chrom. Numb. Flow. Pl. 274. 1969: Britton & Br., Illustr. Fl., ed. 2, pr. 5, 1: 454, fig. 1140 (1970) and 3: 575 & 625. 1970; Wise, Rhodora 72: 513. 1970; Brown & Wherry, Bartonia 40: 6. 1971; I. K. & L. F. Ferguson, Watsonia 8: 400. 1971; Halliday, Watsonia 8: 401. 1971; Moldenke, Phytologia 21: 269--271. 1971; Anon., Biol. Abstr. 52 (18): B.A.S.I.C. S.55 & S.87. 1971; Hocking, Excerpt. Bot. A.19: 43. 1971; Moldenke, Biol. Abstr. 52: 9948. 1971; Moldenke, Fifth Summ. 1: 203, 362, 376, & 424 (1971) and 2: 493, 494, 498, 511, 517, 573, & 932. 1971; Whitehead & Thirumalachar, Mycologia 64: 124, 126, & 128, fig. 2. 1972.

Additional illustrations: W. K. Martin, Concise Brit. Fl. pl. 90. 1965.

The Fergusons (1971) record this plant from two localities on the mainland of Scotland, commenting that theirs is the first record for the Scottish mainland. They state that it was first found on the mainland by W. Dolling in 1967. They themselves found it again in 1970 in another locality in Loch Caorach, where it "was found to be very abundant and flowering freely". A third locality found by them was in Loch Dubh where it "was locally abundant in small patches growing in about 1 ft of water with Littorella". They comment that "It would seem that Eriocaulon may be confined to the western third of the Ardnamurchan peninsula but there are a large number of lochs on Ardnamurchan, which to our knowedge remain to be investigated, both within the region where we have found Eriocaulon and further east." They cite Ferguson & Ferguson 2639 & 2667, deposited in the herbarium of the British Museum (Natural History) in London. Halliday (1971) searched for it in a half dozen more lochs, but with no success.

ERIOCAULON AQUATILE Körn., Linnaea 27: 600. 1856.

Additional bibliography: Moldenke, Phytologia 21: 271. 1971; Moldenke, Fifth Summ. 1: 149 (1971) and 2: 577 & 932. 1971.

ERIOCAULON ARECHAVALETAE Herter, Revist. Sudam. Bot. 2: 125. 1935.

Additional bibliography: Moldenke, Phytologia 20: 343. 1970; Moldenke, Fifth Summ. 1: 189 (1971) and 2: 493, 504, & 932. 1971.

ERIOCAULON ARENICOLA Britton & Small ex N. L. Britton, Bull. Torrey Club 44: 31. 1917.

Additional bibliography: Moldenke, Phytologia 20: 343. 1970; Moldenke, Fifth Summ. 1: 98 (1971) and 2: 932. 1971.

ERIOCAULON ARFAKENSE Van Royen, Nov. Guin., new ser., 10: 26--28, fig. 1B. 1959.

Additional bibliography: Moldenke, Phytologia 20: 343. 1970; Moldenke, Fifth Summ. 1: 336 (1971) and 2: 932. 1971.

ERIOCAULON ARISTATUM H. Hess, Bericht. Schwiez. Bot. Gesell. 65: 160, fig. 11 & 12, & 162--164, pl. 9, fig. 5. 1955.

Additional bibliography: Moldenke, Phytologia 20: 343. 1970; Moldenke, Fifth Summ. 1: 243, 248, & 253 (1971) and 2: 516 & 932. 1971.

ERIOCAULON ARUPENSE Van Royen, Nov. Guin., new ser., 10: 33--34, fig. 1C. 1959.

Additional bibliography: Moldenke, Phytologia 20: 247. 1970; Moldenke, Fifth Summ. 1: 336 (1971) and 2: 933. 1971.

ERIOCAULON ATABAPENSE Moldenke, Known Geogr. Distrib. Erioc. 5 & 32, hyponym (1946) and Phytologia 2: 132. 1948.

Additional bibliography: Moldenke, Phytologia 20: 343. 1970; Moldenke, Fifth Summ. 1: 116 & 123 (1971) and 2: 933. 1971.

Steyermark & Bunting found this plant growing "on mounds by water" and describe it as having recurved flaccid leaves which are pale- or rich-green and white flowers. They found it at 100--125 meters altitude, flowering and fruiting in April and May.

Additional citations: VENEZUELA: Amazonas: Steyermark & Bunting 102998 (Ft), 103228 (Z).

ERIOCAULON ATRATUM Körn., Linnaea 27: 610--611. 1856.

Additional bibliography: Fyson, Journ. Indian Bot. 1: 50. 1919; Moldenke, Phytologia 20: 247. 1970; Moldenke, Fifth Summ. 1: 280, 308, & 312 (1971) and 2: 494 & 933. 1971.

ERIOCAULON ATRATUM var. MAJOR Thwaites in Thwaites & Hook. f., Enum. Pl. Zeyl., pr. 1, 341. 1864.

Additional synonymy: Eriocaulon caulescens Steud. ex Fyson, Journ. Indian Bot. 1: 50 & 51, fig. 4. 1919 [not E. caulescens Kunth, 1971, nor Poir., 1813, nor Salzm., 1863, nor Willd., 1841]. Eriocaulon robustum Hook. f. ex Fyson, Journ. Indian Bot. 1: 50. 1919 [not E. robustum Mak., 1959, nor Steud., 1855]. Eriocaulon robustum var. caulescens Hook. f. & Thoms. ex Fyson, Journ. Indian Bot. 2: 312, pl. 30. 1921.

Additional bibliography: Fyson, Journ. Indian Bot. 1: 50 & 53. 1919; Moldenke, Phytologia 20: 343. 1970; Moldenke, Fifth Summ. 1:

280 (1971) and 2: 494, 496, 508, 510, & 933. 1971.
Additional illustrations: Fyson, Journ. Indian Bot. 1: 51, fig. 4. 1919.

The E. caulescens of Kunth, of Poiret, and of Salzmann, referred to in the synonymy above, are synonyms of Syngonanthus caulescens (Poir.) Ruhl., while E. caulescens Willd. is Paepalanthus pilosus (H.B.K.) Kunth; E. robustum Steud. is a valid species, but E. robustum Mak. is a synonym of E. robustius (Maxim.) Mak.

ERIOCAULON ATROIDES Satake in Nakai, Icon. Pl. As. Orient. 2: 173—176, pl. 65. 1938.
Additional & emended bibliography: Ohwi, Fl. Jap., [Jap. ed.], 263, 267, & 1296. 1953; Koyama in Ohwi, Fl. Jap., [Engl. ed.], 266 & 269. 1965; Moldenke, Phytologia 20: 247. 1970; Moldenke, Fifth Summ. 1: 309 (1971) and 2: 933. 1971.

ERIOCAULON ATROIDES f. NANUM Satake in Nakai & Honda, Nov. Fl. Jap. 6: 73. 1940.
Additional bibliography: Moldenke, Phytologia 20: 247. 1970; Moldenke, Fifth Summ. 1: 309 (1971) and 2: 933. 1971.

ERIOCAULON ATRUM Nakai in Fedde, Repert. Spec. Nov. 9: 466. 1911.
Additional & emended bibliography: Ohwi, Fl. Jap., [Jap. ed.], 263, 267, & 1296. 1953; Koyama in Ohwi, Fl. Jap., [Engl. ed.], 266, 269, & 270. 1965; Moldenke, Phytologia 20: 247—248, 408, & 409 (1970) and 21: 430. 1971; Satake, Journ. Jap. Bot. 46: 110 & 111. 1971; Moldenke, Fifth Summ. 1: 307 & 309 (1971) and 2: 933. 1971; Anon., Biol. Abstr. 54 (1): B.A.S.I.C. S.88. 1972.

Satake (1971) avers that this species resembles both E. nasuense Satake and E. nakasimanum Satake.

ERIOCAULON ATRUM var. INTERMEDIUM Nakai, Journ. Jap. Bot. 15: 142. 1939.
Additional bibliography: Moldenke, Phytologia 20: 247—248. 1970; Moldenke, Fifth Summ. 1: 309 (1971) and 2: 494 & 933. 1971.

ERIOCAULON ATRUM var. PLATYPETALUM Satake, Journ. Jap. Bot. 15: 632. 1939.
Additional bibliography: Moldenke, Phytologia 20: 248. 1970; Moldenke, Fifth Summ. 2: 501, 933, & 969. 1971.

ERIOCAULON AUSTRALASICUM (F. Muell.) Körn., Linnaea 27: 616—617. 1856.
Additional bibliography: Moldenke, Phytologia 20: 248. 1970; Moldenke, Fifth Summ. 1: 346 (1971) and 2: 491, 494, 499, & 933. 1971.

ERIOCAULON AUSTRALE R. Br., Prodr. Fl. Nov. Holl., pr. 1, 1: 254. 1910.
Additional bibliography: R. Schomb., Fl. S. Austr. 62. 1875; Moldenke, Phytologia 20: 344. 1970; Moldenke, Fifth Summ. 1: 288,

300, 336, 346, & 349 (1971) and 2: 494 & 933. 1971; Moldenke, Phytologia 23: 425. 1972.

Recent collectors have found this plant growing in brown sandy soil, flowering in November, and describe it as an "erect herb, inflorescence white". Brass also describes the flower-heads as "white" and found the plant "frequent on old man-induced grasslands", at 300 meters altitude, flowering in September. Brass 28178 was previously regarded by me as representing E. willdenovianum, but this is not the case — its leaves are relatively far too short. A longhand note appended to the United States National Herbarium sheet of this number affirms that a duplicate was identified in Utrecht as E. australe and that it "somewhat combines the characters of E. australe & E. longifolium". It is the basis of my previous (1971) incorrect recording of E. willdenovianum from Sudest island.

Additional citations: AUSTRALIA: Queensland: Boyland & Gillieatt 55a (N). NEW GUINEAN ISLANDS: Sudest: Brass 28178 (W—2409103).

ERIOCAULON BARBA-CAPRAE Fyson, Journ. Indian Bot. 1: 50, nom. nud. (1919) and 2: 197. 1921.

Additional & emended bibliography: Fyson, Journ. Indian Bot. 1: 50 & 53. 1919; Moldenke, Phytologia 20: 344. 1970; Moldenke, Fifth Summ. 1: 274 (1971) and 2: 494 & 933. 1971.

ERIOCAULON BARBEYANUM Ruhl. in Engl., Pflanzenreich 13 (4-30): 73. 1903.

Additional bibliography: Moldenke, Phytologia 18: 79. 1969; Moldenke, Fifth Summ. 1: 274 (1971) and 2: 933. 1971.

ERIOCAULON BASSACENSE Moldenke, Phytologia 3: 308—309. 1950.

Additional bibliography: Moldenke, Phytologia 17: 482. 1969; Moldenke, Fifth Summ. 1: 300 (1971) and 2: 933. 1971.

ERIOCAULON BAURI N. E. Br. in Thiselt.-Dyer, Fl. Cap. 7: 53—55. 1897.

Additional bibliography: Moldenke, Phytologia 20: 344. 1970; Guillarmod, Fl. Lesotho 134 & 316. 1971; Moldenke, Fifth Summ. 1: 254 & 256 (1971) and 2: 494 & 933. 1971; Moldenke, Phytologia 23: 421. 1972.

Guillarmod (1971) records for this species the vernacular names, "nyokoana-ea-likhoho" and "sekolana", and cites Stapleton 250 in the herbaria at Maseru and Pretoria, Dieter 1074 at Maseru, Pretoria, Strasbourg, and Zurich, Guillarmod 4057 at Kew, Maseru, Pretoria, Rhodesia, and his personal herbarium, Guillarmod 1656 in his own herbarium and at Pretoria, and Goetz 811 at Bloemfontein and Pretoria. He gives its overall distribution as "E. Cape, Swaziland". He also cites for "E. sp. nr. E. baurii N. E. Br." Guillarmod 2228 in his own herbarium, Compton 21364 in the Compton Herbarium at Newlands, South Africa, and Guillar-

mod 100 & 770, both in his own herbarium and at Pretoria. He says that this unknown species is called "khala-betloa" by the natives.

ERIOCAULON BEAUVERDI Moldenke, Known Geogr. Distrib. Erioc. 62. 1946.

Additional bibliography: Moldenke, Phytologia 20: 344. 1970; Moldenke, Fifth Summ. 1: 149 (1971) and 2: 501, 502, & 933. 1971.

ERIOCAULON BENTHAMI Kunth, Enum. Pl. 3: 545. 1841.

Additional bibliography: Rzedowski & McVaugh, Contrib. Univ. Mich. Herb. 9: 76 & 89. 1966; Moldenke, Phytologia 20: 344. 1970; Moldenke, Fifth Summ. 1: 48 & 69 (1971) and 2: 494, 792, & 933. 1971.

ERIOCAULON BIFISTULOSUM Van Heurck & Muell.-Arg. in Van Heurck, Observ. Bot. 105. 1870.

Additional bibliography: Moldenke, Phytologia 21: 271 & 276. 1971; Moldenke, Fifth Summ. 1: 210, 211, 214, 216, 218, 219, 222, 226, 227, 230, 237, 240, 243, 246, 248, 251, 261, & 274 (1971) and 2: 494, 500, 504, 511, 512, & 933. 1971.

ERIOCAULON BILOBATUM Morong, Bull. Torrey Bot. Club 19: 226. 1892.

Additional bibliography: Moldenke, Phytologia 21: 271. 1971; Moldenke, Fifth Summ. 1: 69 & 79 (1971) and 2: 503 & 933. 1971.

McVaugh found this plant "abundant in drying seepage areas under oaks on rocky rhyolitic hills in sparse forest of Quercus resinosa with a mixture of Pinus lumholtzii", at an altitude of 2200 meters, and tells us that the "over-mature heads" are black.

Additional citations: MEXICO: Jalisco: R. McVaugh 24333 (Mi).

ERIOCAULON BIPETALUM Good, Geogr. Flow. Pl. 277 & 483, nom. nud. 1964.

Additional bibliography: Moldenke, Phytologia 19: 20. 1969.

ERIOCAULON BLUMEI Körn. in Miq., Ann. Mus. Bot. Lugd. Bat. 3: 240. 1867.

Additional bibliography: Moldenke, Phytologia 19: 20. 1969; Hocking, Excerpt. Bot. A.16: 38. 1970; Moldenke, Fifth Summ. 1: 323 (1971) and 2: 933. 1971.

ERIOCAULON BOMBAYANUM Ruhl. in Engl., Pflanzenreich 13 (4-30): 104. 1903.

Additional bibliography: Moldenke, Phytologia 19: 326. 1970; Moldenke, Fifth Summ. 1: 274 (1971) and 2: 933. 1971.

ERIOCAULON BONGENSE Engl. & Ruhl. ex Ruhl. in Engl., Bot. Jahrb. 27: 75. 1899.

Additional bibliography: Moldenke, Phytologia 21: 271. 1971; Moldenke, Fifth Summ. 1: 209--211, 214--216, 222, 226, 240, & 246 (1971) and 2: 933. 1971.

ERIOCAULON BONI H. Lecomte, Journ. de Bot. 21: 108. 1908.

Additional bibliography: Moldenke, Phytologia 20: 344. 1970; Moldenke, Fifth Summ. 1: 300 (1971) and 2: 933. 1971.

ERIOCAULON BRACHYPEPLON Körn., Linnaea 27: 665--667. 1856.
Additional bibliography: Moldenke, Phytologia 20: 344. 1970; Moldenke, Fifth Summ. 1: 339 (1971) and 2: 933. 1971.

ERIOCAULON BREVIPEDUNCULATUM Merr., Philip. Journ. Sci. Bot. 2: 265. 1907.
Additional bibliography: Moldenke, Phytologia 20: 344--345 & 412. 1970; Moldenke, Fifth Summ. 1: 316 (1971) and 2: 495 & 933. 1971.

ERIOCAULON BREVIPEDUNCULATUM var. LONGIPES Moldenke, Phytologia 9: 350. 1963.
Additional bibliography: Moldenke, Phytologia 17: 453. 1968; Moldenke, Fifth Summ. 1: 336 (1971) and 2: 933. 1971.

ERIOCAULON BREVISCAPUM Körn., Linnaea 27: 676--677. 1856.
Emended synonymy: Eriocaulon breviscapon Körn. apud Fyson, Journ. Indian Bot. 1: 52 & 53. 1919.
Additional bibliography: Fyson, Journ. Indian Bot. 1: 52 & 53. 1919; Moldenke, Phytologia 20: 7. 1970; Moldenke, Fifth Summ. 1: 274 & 300 (1971) and 2: 495 & 933. 1971.

ERIOCAULON BROMELIOIDEUM H. Lecomte, Journ. de Bot. 21: 107. 1908.
Additional bibliography: Moldenke, Phytologia 20: 345. 1970; Moldenke, Fifth Summ. 1: 300 (1971) and 2: 495 & 933. 1971.

ERIOCAULON BROMELIOIDEUM var. LATIFOLIUM H. Lecomte, Fl. Gén. Indo-Chine 7: 17. 1912.
Additional bibliography: Moldenke, Phytologia 19: 21. 1969; Moldenke, Fifth Summ. 1: 300 (1971) and 2: 495 & 933. 1971.

ERIOCAULON BROWNIANUM Mart. in Wall., Pl. Asiat. Rar. 3: 25--26 & 28, pl. 248. 1832.
Additional bibliography: Fyson, Journ. Indian Bot. 1: 50. 1919; Moldenke, Phytologia 20: 345. 1970; Blasco, Inst. Franç. Pond. Trav. Sec. Scient. & Techn. 10: 115, 117, 123, 124, & 401, fig. 12. 1971; Mueller-Dombois & Perera, Ceylon Journ. Sci. Biol. 9: 13. 1971; Moldenke, Fifth Summ. 1: 268, 274, 280, & 300 (1971) and 2: 495, 516, & 933. 1971.
Additional illustrations: Blasco, Inst. Franç. Pond. Trav. Sec. Scient. & Techn. 10: fig. 12. 1971.
Koyama & Herat found this plant growing on the wet margins of narrow streams at the bottom of a swampy depression in black Patana grassland with Fimbristylis monticola and Carex arnottiana, at 7200 feet altitude, flowering and fruiting in May.
Additional citations: CEYLON: Koyama & Herat 13640 (N).

ERIOCAULON BROWNIANUM var. LATIFOLIUM Moldenke, Phytologia 3: 411. 1951.

Additional bibliography: Moldenke, Phytologia 17: 454. 1968; Moldenke, Fifth Summ. 1: 280 (1971) and 2: 933. 1971.

ERIOCAULON BRUNONIS Britten, Journ. Bot. 38: 482. 1900.
Additional bibliography: R. Schomb., Fl. S. Austr. 62. 1875; Moldenke, Phytologia 20: 345. 1970; Moldenke, Fifth Summ. 1: 346 (1971) and 2: 495, 511, 616, & 933. 1971.

ERIOCAULON BUCHANANII Ruhl. in Thiselt.-Dyer, Fl. Cap. 7: 83. 1897.
Additional bibliography: Moldenke, Phytologia 20: 345. 1970; Raynal, Adansonia, new ser., 8: 100. 1971; Moldenke, Fifth Summ. 1: 214, 216, 237, 243, 246, 248, 249, & 253 (1971) and 2: 495, 774, & 933. 1971.

ERIOCAULON BUERGERIANUM Körn. in Miq., Ann. Mus. Bot. Lugd. Bat. 3: 163--164. 1867.
Additional & emended bibliography: Ohwi, Fl. Jap., [Jap. ed.], 262, 265, & 1296. 1953; Koyama in Ohwi, Fl. Jap., [Engl. ed.], 266 & 268. 1965; Moldenke, Phytologia 20: 345. 1970; Satake, Journ. Jap. Bot. 46: 373. 1971; Moldenke, Fifth Summ. 1: 208, 288, 292, 300, 309, 312, 313, & 424 (1971) and 2: 507, 508, & 933. 1971.

ERIOCAULON BURCHELLII Ruhl. in Engl., Pflanzenreich 13 (4-30): 50. 1903.
Additional bibliography: Moldenke, Phytologia 20: 345. 1970; Moldenke, Fifth Summ. 1: 149 (1971) and 2: 933. 1971.
Irwin & Soderstrom report that this plant is locally frequent at 700 to 1000 meters altitude in sun-exposed positions in gallery forests submerged in slow-running water, flowering and fruiting in August. Their collection exhibits the distinctly viviparous heads seen also on the type collection.
Additional citations: BRAZIL: Distrito Federal: Irwin & Soderstrom 5421 (Ft, N, Rf, Z).

ERIOCAULON CAAGUAZUENSE Ruhl. in Engl., Bot. Jahrb. 37: 519. 1906.
Additional bibliography: Moldenke, Phytologia 20: 345. 1970; Moldenke, Fifth Summ. 1: 185 (1971) and 2: 496 & 933. 1971.

ERIOCAULON CABRALENSE Alv. Silv., Archiv. Mus. Nac. Rio Jan. 23: 162, pl. 4. 1921.
Additional bibliography: Moldenke, Phytologia 20: 346. 1970; Moldenke, Fifth Summ. 1: 149 (1971) and 2: 497. 1971.

ERIOCAULON CAESIUM Griseb., Fl. Brit. W. Ind., pr. 1, 526. 1864.
Additional bibliography: Moldenke, Phytologia 20: 346. 1970; Moldenke, Fifth Summ. 1: 111 (1971) and 2: 933. 1971.

ERIOCAULON CANDIDUM Moldenke, Bull. Torrey Bot. Club 77: 389. 1950.
Additional bibliography: Moldenke, Bull. Torrey Bot. Club 77: 389. 1950; Moldenke, Phytologia 19: 327. 1970; Moldenke, Fifth

Summ. 1: 149 (1971) and 2: 933. 1971.

ERIOCAULON CAPITULATUM Moldenke, Phytologia 2: 132—133. 1948.
Additional bibliography: Moldenke, Phytologia 21: 271. 1971; Moldenke, Fifth Summ. 1: 69 (1971) and 2: 933. 1971.

ERIOCAULON CARSONI F. Muell., Proc. Linn. Soc. New S. Wales, ser. 2, 5: 250. 1890.
Additional bibliography: Moldenke, Phytologia 20: 346. 1970; Moldenke, Fifth Summ. 1: 346 (1971) and 2: 496, 514, & 933. 1971.

ERIOCAULON CAULIFERUM Mak., Bot. Mag. Tokyo 24: 165. 1910.
Additional & emended bibliography: Ohwi, Fl. Jap., [Jap. ed.], 262, 264, & 1296. 1953; Koyama in Ohwi, Fl. Jap., [Engl. ed.], 266 & 267. 1965; Moldenke, Phytologia 20: 346. 1970; Satake, Journ. Jap. Bot. 46: 372. 1971; Moldenke, Fifth Summ. 1: 309 (1971) and 2: 933. 1971.

ERIOCAULON CELEBICUM Van Royen, Blumea 10: 127—129, fig. 1B. 1960.
Additional bibliography: Moldenke, Phytologia 20: 346. 1970; Moldenke, Fifth Summ. 1: 323 (1971) and 2: 933. 1971.

ERIOCAULON CEYLANICUM Körn., Linnaea 27: 667—669. 1856.
Emended synonymy: Eriocaulon cristatum var. bracteis floralibus denticulatis et longiuscule cuspidato-acuminatis Thwaites & Hook., Enum. Pl. Zeyl., pr. 1, 341. 1864. Eriocaulon cuspidatum var. Thwaites apud Hook. f. in Trimen, Handb. Fl. Ceylon 5: 3—4, in syn. 1900.
Additional & emended bibliography: Thwaites & Hook. f., Enum. Pl. Zeyl., pr. 1, 341. 1864; Fyson, Journ. Indian Bot. 1: 50. 1919; Moldenke, Phytologia 20: 346. 1970; Mueller-Dombois & Perera, Ceylon Journ. Sci. Biol. 9: 13. 1971; Moldenke, Fifth Summ. 1: 280 (1971) and 2: 496, 497, 514, 517, & 933. 1971.

ERIOCAULON CHINOROSSICUM Komarov ex Steinberg in Komarov & Schischkin, Fl. U.S.S.R. 3: 497—498, pl. 27, fig. 2 a—c. 1935.
Additional bibliography: Moldenke, Phytologia 20: 346. 1970; Moldenke, Fifth Summ. 1: 208 (1971) and 2: 496 & 934. 1971.

ERIOCAULON CHRISTOPHERI Fyson, Kew. Bull. Misc. Inf. 1914: 330. 1914.
Additional bibliography: Moldenke, Phytologia 20: 346. 1970; Moldenke, Fifth Summ. 1: 274 (1971) and 2: 934. 1971.

ERIOCAULON CILIIPETALUM H. Hess, Bericht. Schweiz. Bot. Gesell. 65: 263—265, fig. 1—3. 1955.
Additional bibliography: Moldenke, Phytologia 19: 25. 1969; Moldenke, Fifth Summ. 1: 239 (1971) and 2: 934. 1971.

ERIOCAULON CINEREUM R. Br., Prodr. Fl. Nov. Holl., pr. 1, 1: 254. 1810.

Emended synonymy: Eriocaulon sexangulare Auct. ex Ruhl. in Engl., Pflanzenreich 13 (4-30): 21 & 287, in syn. 1903 [not E. sexangulare Auct. ex Cuf., 1971, nor Birm. f., 1826, nor Fyson, 1959, nor Heyne, 1832, nor L., 1753, nor Willd., 1841]. Eriocaulon cinereum var. sieboldianum (Sieb. & Zucc.) Koyama in Ohwi, Fl. Jap., [Engl. ed.], 266. 1965. Eriocaulon sexangulare sensu auct. Japon. ex Koyama in Ohwi. Fl. Jap., [Engl. ed.], 266, in syn. 1965.

Additional & emended bibliography: R. Schomb., Fl. S. Austr. 62. 1875; Ohwi, Fl. Jap., [Jap. ed.], 262, 263, & 1296. 1953; Darlington & Wylie, Chrom. Atl., pr. 1, 340 (1956) and pr. 2, 340. 1961; Koyama in Ohwi, Fl. Jap., [Engl. ed.], 265—267. 1965; Sundaru, Proc. 2nd Asian-Pacif. Weed Control Interchange 135—141. 1969; Bolkh., Grif, Matvej., & Zakhar., Chrom. Numb. Flow. Pl. 274. 1969; Jeanplong, Phyton 14: 94. 1970; Hocking, Excerpt. Bot. A.16: 40. 1970; Podlech in K. Rech., Fl. Iran. 89: Erioc. [1]. 1971; Satake in Hara, Univ. Mus. Univ. Tokyo Bull. 2: 159. 1971; Kemp, Weed Abstr. 20: 78. 1971; Moldenke, Fifth Summ. 1: 64, 237, 268, 270, 280, 283, 288, 292, 293, 295, 300, 308, 309, 312, 313, 316, 323, 346, & 349 (1971) and 2: 495—497, 500, 502, 507, 510, 512—514, 517, 548, & 934. 1971; Moldenke, Phytologia 21: 427 (1971) and 23: 421, 424, 425, & 431. 1972.

The Eriocaulon sexangulare accredited to "Auct." by Cufodontis (1971) is a synonym of E. abyssinicum Hochst.

Satake (1971) cites eight unnumbered collections of E. cinereum from Nepal, collected at altitudes of 200 to 2100 meters, flowering from October to December, gives the following overall distribution "Africa, India, Ceylon, Indo-China, Java, Philippines, China, and Japan", and comments "On examining the specimens of Nepal and Japan, I have observed many variations in flower parts. However, no specimens with villous receptacles are found. I think that the Asian plants are referred to E. Sieboldianum, until the other characters of E. cinereum will be verified based on the authentic specimens."

Jeanplong (1970) records E. cinereum from North Vietnam. Kemp (1971) refers to Eriocaulon cinereum as a "sedge" and describes several chemical herbicides used to eliminate it from ricefields with varying degrees of success. Panigrahi & Saran (1967) found it growing in muddy soil in Uttar Pradesh, India, and cite their nos. 1475, 1525, & 1525a.

Additional citations: RYUKYU ISLAND ARCHIPELAGO: Yoronjima: Tagawa & Iwatsuki 2416 (N).

ERIOCAULON CIPOENSE Alv. Silv., Fl. Serr. Min. 33, pl. 10. 1908.

Additional bibliography: Moldenke, Phytologia 20: 347. 1970; Moldenke, Fifth Summ. 1: 149 (1971) and 2: 934. 1971.

ERIOCAULON COERULEUM Van Royen, Blumea 10: 128—130, fig. 1C. 1960.

Additional bibliography: Moldenke, Phytologia 20: 347. 1970; Moldenke, Fifth Summ. 1: 323 (1971) and 2: 934. 1971.

ERIOCAULON COLLETTII Hook. f., Fl. Brit. Ind. 6: 575. 1893.

Additional bibliography: Fyson, Journ. Indian Bot. 1: 50. 1919; Moldenke, Phytologia 20: 347. 1970; Moldenke, Fifth Summ. 1: 274 & 283 (1971) and 2: 934. 1971.

Ruhland (1903) cites the original publication of this species as "1894", but pages 449—672 of Hooker's work were actually issued in 1893.

ERIOCAULON COLLINUM Hook. f., Fl. Brit. Ind. 6: 584. 1893.

Additional bibliography: Fyson, Journ. Indian Bot. 1: 50 & 52. 1919; Blasco, Inst. Franç. Pond. Trav. Sec. Scient. & Techn. 10: 121 & 401, fig. 12. 1971; Moldenke, Fifth Summ. 1: 274 & 280 (1971) and 2: 497, 499, 505, & 934. 1971; Moldenke, Phytologia 21: 271—272 (1971) and 23: 422. 1972.

Additional illustrations: Blasco, Inst. Franç. Pond. Trav. Sec. Scient. & Techn. 10: fig. 12. 1971.

Ruhland (1903) cites the original publication of this species as "1894", but pages 449—672 of Hooker's work were actually issued in 1893.

ERIOCAULON COMPRESSUM Lam., Encycl. Méth. 3: 276. 1789.

Additional bibliography: Pers., Sp. Pl. 1: 284. 1817; Hotchkiss, Bur. Sports Fish. & Wildlife U. S. Dept. Int. Res. Publ. 44: [Underw. & Float. Pl.] 25. 1967; Britton & Br., Illustr. Fl., ed. 2, pr. 5, 1: 454, fig. 1142. 1970; Hocking, Excerpt. Bot. A.16: 39. 1970; Brown & Wherry, Bartonia 40: 6. 1971; Moldenke, Phytologia 21: 427. 1971; Long & Lakela, Fl. Trop. Fla. 259, 260, & 938. 1971; Moldenke, Fifth Summ. 1: 18, 20, 22, 24, 26, 28, 31, 32, 48, & 55 (1971) and 2: 492, 496—498, 500, 501, 518, 573, 623, 625, & 934. 1971; Gantz, Naturalist South. Fla. 148, 149, & 254. 1971; Hotchkiss, Common Marsh Underw. & Float. Pl. [2]: 25. 1972.

Additional illustrations: Britton & Br., Illustr. Fl., ed. 2, pr. 5, 1: 454, fig. 1142. 1970.

Craighead found this plant growing in a patch of Stillingia, flowering in January, while MacElwee found it on floating islands of Sphagnum. Hotchkiss (1967) calls it "early pipewort".

Additional citations: NEW JERSEY: Atlantic Co.: Bassett s.n. [May 27, 1923] (Mi). Ocean Co.: MacElwee 658 [Herb. Dreisbach 5559] (Mi). FLORIDA: Collier Co.: Craighead s.n. [14 January 1966] (Ft—10951).

ERIOCAULON COMPRESSUM var. HARPERI Moldenke, N. Am. Fl. 19: 23. 1937.

Additional bibliography: Moldenke, Phytologia 20: 347. 1970; Moldenke, Fifth Summ. 1: 18, 20, 26, 28, 31, 32, & 48 (1971) and 2: 496 & 934. 1971.

ERIOCAULON COMPTONII Rendle, Journ. Linn. Soc. Lond. Bot. 45:

259. 1921.

Additional bibliography: Moldenke, Phytologia 20: 347. 1970; Moldenke, Fifth Summ. 1: 341 (1971) and 2: 934. 1971.

ERIOCAULON CONCRETUM F. Muell., Fragm. 1: 92--93. 1859.

Additional bibliography: Moldenke, Phytologia 18: 174. 1969; Moldenke, Fifth Summ. 1: 346 (1971) and 2: 934. 1971.

ERIOCAULON CONGOLENSE Moldenke, Résumé Suppl. 4: 7, nom. nud. (June 5, 1962); Phytologia 8: 386. December 10. 1962.

Additional bibliography: Moldenke, Phytologia 20: 347. 1970; Moldenke, Fifth Summ. 1: 230 (1971) and 2: 934. 1971.

ERIOCAULON CONICUM (Fyson) C. E. C. Fischer in Gamble, Fl. Presid. Madras 9: 1616--1617. 1931.

Additional bibliography: Moldenke, Phytologia 20: 347--348. 1970; Moldenke, Fifth Summ. 1: 274 (1971) and 2: 497, 499, & 934. 1971.

ERIOCAULON CONIFERUM Herzog ex Lützelburg, Estud. Bot. Nordéste 3: 147 & 150, hyponym (1923); Herzog in Fedde, Repert. Spec. Nov. 20: 82. 1924.

Additional bibliography: Moldenke, Phytologia 19: 29. 1969; Moldenke, Fifth Summ. 1: 149 (1971) and 2: 934. 1971.

ERIOCAULON CRASSISCAPUM Bong., Mém. Acad. Imp. Sci. St.-Pétersb., sér. 6, 1: 628. 1831.

Additional bibliography: Mitra, Elem. Syst. Bot. Angiosp., ed 2 abridg., 166, fig. 78. 1967; Moldenke, Phytologia 20: 348. 1970; Moldenke, Fifth Summ. 1: 149 & 195 (1971) and 2: 497, 506, & 934. 1971.

Additional illustrations: Mitra, Elem. Syst. Bot. Angiosp., ed. 2 abrdg., 166, fig. 78. 1967.

The Krapovickas, Cristóbal, Arbo, Maruñak, Maruñak, & Irigoyen 17252, distributed as E. crassiscapum, is actually E. leptophyllum Kunth.

ERIOCAULON CRISTATUM Mart. in Wall., Plant. Asiat. Rar. 3: 28. 1832.

Emended synonymy: Eriocaulon cristatum Heyne apud Ruhl. in Engl., Pflanzenreich 13 (4-30): 84. 1903 [not E. cristatum Mart. ex Körn., 1856].

Additional bibliography: Fyson, Journ. Indian Bot. 1: 50. 1919; Moldenke, Phytologia 21: 272. 1971; Moldenke, Fifth Summ. 1: 268, 270, 274, 288, 305, & 309 (1971) and 2: 497, 509, & 934. 1971.

The variety of this species described by Thwaites & Hooker (1864) and referred to by me in Phytologia 19: 330--331 (1970) is now known as E. ceylanicum Körn.

ERIOCAULON CRISTATUM var. BREVICALYX C. H. Wright, Journ. Linn.

Soc. Lond. Bot. 36: 199. 1903.
Additional bibliography: Moldenke, Phytologia 20: 348. 1970; Moldenke, Fifth Summ. 1: 293 (1971) and 2: 497 & 934. 1971.

ERIOCAULON CRISTATUM var. MACKII Hook. f., Fl. Brit. India 6: 574. 1893.
Additional bibliography: Moldenke, Phytologia 20: 348. 1970; Moldenke, Fifth Summ. 1: 274 (1971) and 2: 497. 1971.
Ruhland (1903) erroneously dates the original publication of this variety as "1894".

ERIOCAULON CUBENSE Ruhl. in Fedde, Repert. Spec. Nov. 22: 29. 1925.
Additional bibliography: Moldenke, Phytologia 20: 348. 1970; Moldenke, Fifth Summ. 1: 98 (1971) and 2: 934. 1971.

ERIOCAULON CUSPIDATUM Dalz. in Hook., Kew Journ. 3: 281. 1851.
Additional bibliography: Fyson, Journ. Indian Bot. 1: 50. 1919; Moldenke, Phytologia 20: 348. 1970; Moldenke, Fifth Summ. 1: 274 & 280 (1971) and 2: 934. 1971.

ERIOCAULON CUSPIDATUM var. BRACTEATUM Fyson, Journ. Indian Bot. Soc. 2: 318 [as "bracteata"]. 1921.
Additional bibliography: Moldenke, Phytologia 18: 83. 1970; Moldenke, Fifth Summ. 1: 274 (1971) and 2: 497 & 934. 1971.

ERIOCAULON DALZELLII Körn., Linnaea 27: 605—606. 1856.
Additional bibliography: Fyson, Journ. Indian Bot. 1: 52. 1919; Moldenke, Phytologia 21: 272. 1971; Moldenke, Fifth Summ. 1: 268, 274, & 280 (1971) and 2: 498, 510, & 934. 1971.
Ruhland (1903) dates this binomial as "1854", but pages 129—799 of volume 27 of Linnaea were not issued until 1856.

ERIOCAULON DAMAZIANUM Beauverd, Bull. Herb. Boiss., sér. 2, 8: 986—988, fig. 1 A—G. 1909.
Additional bibliography: Moldenke, Phytologia 19: 30—31. 1969; Moldenke, Fifth Summ. 1: 149 (1971) and 2: 498 & 934. 1971.

ERIOCAULON DECANGULARE L., Sp. Pl., ed. 1, 1: 87. 1753.
Additional bibliography: Pers., Sp. Pl. 1: 284. 1817; Britton & Br., Illustr. Fl., ed. 2, pr. 5, 1: 455, fig. 1143. 1970; Hocking, Excerpt. Bot. A.16: 39 (1970) and A.19: 43. 1971; Cusick, Castanea 35: 323. 1971; Brown & Wherry, Bartonia 13: 6. 1971; Moldenke, Biol. Abstr. 51: 9023 (1970) and 52: 5935. 1971; Moldenke, Phytologia 21: 427. 1971; Long & Lakela, Fl. Trop. Fla. 259, 260, & 938. 1971; Moldenke, Fifth Summ. 1: 18—22, 24, 26, 28, 31, 32, 48, 55, & 69 (1971) and 2: 498, 500, 501, 505, 509, 512, 514, 516—518, 580, 615, 616, 634, 764, 792, & 934. 1971.
Additional illustrations: Britton & Br., Illustr. Fl., ed. 2, pr. 5, 1: 455, fig. 1143. 1970.
Additional citations: NEW JERSEY: Burlington Co.: Dreisbach 1029

[Herb. Dreisbach 162] (Mi).

ERIOCAULON DECANGULARE var. LATIFOLIUM Chapm. ex Moldenke, N. Am. Fl. 19: 21. 1937.

Additional bibliography: Moldenke, Phytologia 20: 404. 1970; Moldenke, Biol. Abstr. 52: 5935. 1971; Hocking, Excerpt. Bot. A. 19: 43. 1971; Moldenke, Fifth Summ. 1: 28, 31, & 32 (1971) and 2: 498 & 934. 1971.

ERIOCAULON DECANGULARE var. MINOR Moldenke, Phytologia 15: 462. 1968.

Additional bibliography: Moldenke, Phytologia 20: 404. 1970; Moldenke, Fifth Summ. 1: 48 & 55 (1971) and 2: 934. 1971.

Additional & emended citations: TEXAS: Leon Co.: F. A. Barkley 13556 (Au—26776). Milam Co.: Tharp 4434c (Au—26773), 44344b (Au—26778).

ERIOCAULON DECANGULARE f. PARVICEPS Moldenke, Phytologia 19: 333. 1970.

Additional bibliography: Moldenke, Biol. Abstr. 51: 9023. 1970; Moldenke, Phytologia 21: 272. 1971; Moldenke, Fifth Summ. 1: 55 (1971) and 2: 934. 1971.

Lonard found this plant growing in acid Sphagnum bogs.

Additional citations: TEXAS: Robertson Co.: Lonard 1956 (Au—267330).

ERIOCAULON DECEMFLORUM Maxim., Diagn. Pl. Nov. Asiat. 8: 7—9. 1893.

Additional & emended bibliography: Ohwi, Fl. Jap., [Jap. ed.], 262, 263, & 1296. 1953; Koyama in Ohwi, Fl. Jap., [Engl. ed.], 266. 1965; Moldenke, Phytologia 20: 404. 1970; Satake, Journ. Jap. Bot. 46: 372—373. 1971; Moldenke, Fifth Summ. 1: 288, 308, 309, & 312 (1971) and 2: 498, 499, & 934. 1971; Moldenke, Phytologia 23: 424. 1972.

ERIOCAULON DECEMFLORUM f. ABERANS Satake, Journ. Jap. Bot. 46: 373. 1971.

Bibliography: Satake, Journ. Jap. Bot. 46: 373. 1971; Moldenke, Phytologia 23: 424. 1972.

Illustrations: Satake, Journ. Jap. Bot. 46: 373. 1971.

This appears to be a viviparous form of the species.

ERIOCAULON DECEMFLORUM f. COREANUM (H. Lecomte) Nakai in Matsum., Icon. Pl. Koisikav. 2: 47, pl. 108. 1914.

Additional bibliography: Moldenke, Phytologia 20: 404. 1970; Moldenke, Fifth Summ. 1: 308 & 312 (1971) and 2: 497, 498, & 934. 1971.

ERIOCAULON DECIPIENS N. E. Br. in Thiselt.-Dyer, Fl. Trop. Afr. 8: 245. 1901.

Additional bibliography: Moldenke, Phytologia 20: 404. 1970;

Moldenke, Fifth Summ. 1: 246, 248, & 249 (1971) and 2: 499 & 934. 1971.

ERIOCAULON DEHNIAE H. Hess, Bericht. Schweiz., Bot. Gesell. 67: 84—87, fig. 1. 1957.
Additional bibliography: Moldenke, Phytologia 20: 404. 1970; Moldenke, Fifth Summ. 1: 248 (1971) and 2: 934. 1971.

ERIOCAULON DEIGHTONII Meikle, Kew Bull. 22: 143. 1968.
Additional bibliography: Moldenke, Phytologia 20: 405. 1970; C. C. Townsend, Excerpt. Bot. A.15: 418. 1970; Moldenke, Fifth Summ. 1: 216 & 218 (1971) and 2: 934. 1971.

ERIOCAULON DEMBIANENSE A. Chiov., Ann. Bot. Roma 9: 148. 1911.
Additional bibliography: Moldenke, Phytologia 20: 405. 1970; Cuf., Bull. Jard. Bot. Belg. 41 (3): Suppl. 1507. 1971; Moldenke, Fifth Summ. 1: 212 (1971) and 2: 934. 1971.
Cufodontis (1971) notes: "Syntypi: Chiovenda 1651 (M. Incedubà prope Gondar), 1912, 2573 (vallis Scintà supra Asosò).....Species porro indaganda."

ERIOCAULON DENSUM Mart. ex Colla, Herb. Pedem. 5: 483—484. 1836.
Synonymy: Eriocaulon densum Colla apud Moldenke, Résumé Suppl. 17: 3. 1968.
Additional bibliography: Moldenke, Phytologia 18: 84. 1969; Moldenke, Fifth Summ. 1: 149 (1971) and 2: 934. 1971.

ERIOCAULON DEPAUPERATUM Merr., Philip. Journ. Sci. Bot. 5: 336. 1910.
Additional bibliography: Moldenke, Phytologia 19: 34. 1969; Moldenke, Fifth Summ. 1: 316 (1971) and 2: 934. 1971.

ERIOCAULON DEPRESSUM R. Br., Prodr. Fl. Nov. Holl., pr. 1, 1: 255. 1810.
Additional bibliography: Moldenke, Phytologia 20: 10. 1970; Moldenke, Fifth Summ. 1: 346 (1971) and 2: 499, 615, 616, & 934. 1971.

ERIOCAULON DESLANDESII Alv. Silv., Fl. Mont. 1: 421, pl. 253. 1928.
Additional & emended bibliography: Alv. Silv., Fl. Mont. 1: [1] & 421, pl. 253. 1928; Reitz, Sellowia 22: 51. 1970; Moldenke, Phytologia 20: 405. 1970; Moldenke, Fifth Summ. 1: 149 (1971) and 2: 934. 1971.
Emended illustrations: Alv. Silv., Fl. Mont. 1: pl. 253. 1928.

ERIOCAULON DIAGUISSENSE Bourdu, Bull. Soc. Bot. France 104: 156—158, fig. A—F. 1957.
Additional bibliography: Moldenke, Phytologia 20: 405. 1970; Moldenke, Fifth Summ. 1: 216 (1971) and 2: 934. 1971.

ERIOCAULON DIANAE Fyson, Journ. Indian Bot. 1: 50, hyponym (1919)

and 2: 259, pl. 12. 1921.

Additional & emended bibliography: Fyson, Journ. Indian Bot. 1: 50, 52, & 52. 1919; Moldenke, Phytologia 21: 272 & 428. 1971; Inamdar & Patel, Indian Forest. 97: 330. 1971; Moldenke, Fifth Summ. 1: 274, 280, & 295 (1971) and 2: 499 & 934. 1971.

ERIOCAULON DIANAE var. LONGIBRACTEATUM Fyson, Journ. Indian Bot. 2: 259—260, pl. 13 [as "longi-bracteata"]. 1921.

Additional bibliography: Moldenke, Phytologia 21: 272 & 428. 1971; Moldenke, Fifth Summ. 1: 274, 280, & 295 (1971) and 2: 499 & 934. 1971.

The Stocks, Law, &c. s.n. [Malabar, Concan, &c.] in the Munich herbarium, cited by me as this variety in a previous installment of these notes, proves to be E. heterolepis Steud.

ERIOCAULON DIANAE var. PARVIFLORUM Fyson, Journ. Indian Bot. 2: 260 [as "parviflora"]. 1921.

Additional bibliography: Moldenke, Phytologia 18: 85. 1969; Moldenke, Fifth Summ. 1: 274 (1971) and 2: 499 & 934. 1971.

ERIOCAULON DIANAE var. RICHARDIANUM Fyson, Journ. Indian Bot. 2: 260 [as "richardiana"]. 1921.

Additional bibliography: Moldenke, Phytologia 19: 334. 1970; Moldenke, Fifth Summ. 1: 274 (1971) and 2: 499 & 935. 1971.

ERIOCAULON DICLINE Maxim., Diagn. Pl. Nov. Asiat. 8: 21—22. 1893.

Additional bibliography: Moldenke, Phytologia 19: 334. 1970; Moldenke, Fifth Summ. 1: 309 (1971) and 2: 513, 517, & 935. 1971.

ERIOCAULON DICTYOPHYLLUM Körn., Linnaea 27: 600. 1856.

Additional bibliography: Reitz, Sellowia 22: 51. 1970; Moldenke, Fifth Summ. 1: 149 (1971) and 2: 499, 500, 580, & 935. 1971; Moldenke, Phytologia 21: 427 (1971) and 23: 418. 1972; Moldenke, Biol. Abstr. 53: 5252. 1972; Anon., Biol. Abstr. 53 (10): B.A.S. I.C. S.85. 1972.

The Smith & Reitz 9187, distributed as E. dictyophyllum and so cited by me in previous installments of this series of notes, is actually E. paranense Moldenke. The Ratter, Santos, Souza, & Ferreira R.1724 collection, cited below, was gathered "in a stream, leaves submerged, but flowerheads held above water surface" and was distributed with the comment "perhaps E. glaziovii Ruhl."

Additional citations: BRAZIL: Mato Grosso: Irwin, Souza, Grear, & Reis dos Santos 16797 (N); Ratter, Santos, Souza, & Ferreira R. 1724 (N).

ERIOCAULON DICTYOPHYLLUM f. VIVIPARUM Moldenke, Phytologia 22: 126. 1971.

Bibliography: Moldenke, Fifth Summ. 2: 935. 1971; Moldenke, Phytologia 22: 126 (1971) and 23: 418. 1972; Moldenke, Biol. Abstr. 53: 5252. 1972; Anon., Biol. Abstr. 53 (10): B.A.S.I.C. S.85. 1972.

The Eitens found this plant growing in "soaking soil at water

level at the edge of a brook in a narrow gully in the shade of gallery scrub vegetation", flowering and fruiting in September.

Cutations: BRAZIL: Mato Grosso: Eiten & Eiten 8578 (W--2615849); Harley & Souza 10097 (N--type).

ERIOCAULON DIMORPHOELYTRUM Koyama, Journ. Jap. Bot. 31: 7--9, fig. 2. 1956.

Additional bibliography: Moldenke, Phytologia 20: 405. 1970; Moldenke, Fifth Summ. 1: 309 (1971) and 2: 499 & 935. 1971.

ERIOCAULON DIMORPHOPETALUM Moldenke, Phytologia 3: 323, hyponym (1950) and Fieldiana Bot. 28: 116--117. 1951.

Additional & emended bibliography: J. A. Steyerm., Act. Bot. Venez. 1: 195. 1966; Moldenke, Phytologia 20: 405. 1970; Moldenke, Fifth Summ. 1: 116 & 123 (1971) and 2: 935. 1971.

ERIOCAULON DIOECUM Ruhl. in Fedde, Repert. Spec. Nov. 22: 29. 1925.

Additional bibliography: Moldenke, Phytologia 20: 406. 1970; Moldenke, Fifth Summ. 1: 95 (1971) and 2: 935. 1971.

ERIOCAULON DISEPALUM Ridl., Journ. Fed. Malay States Mus. 10: 155. 1920.

Additional bibliography: Moldenke, Phytologia 18: 56. 1968; Moldenke, Fifth Summ. 1: 305 (1971) and 2: 935. 1971.

ERIOCAULON DREGEI Hochst., Flora 28: 341. 1845.

Additional bibliography: Moldenke, Phytologia 20: 406. 1970; C. C. Townsend, Excerpt. Bot. A.15: 418. 1970; Guillarmod, Fl. Lesotho 134. 1971; Moldenke, Fifth Summ. 1: 254 & 256 (1971) and 2: 935. 1971; Moldenke, Phytologia 23: 421. 1972.

Guillarmod (1971) cites "Kill. 2346" from Lesotho in the Pretoria herbarium and gives the overall distribution of the species in South Africa as "Natal, Swaziland".

ERIOCAULON DUTHIEI Hook. f., Fl. Brit. Ind. 6: 578. 1893.

Additional bibliography: Fyson, Journ. Indian Bot. 1: 50. 1919; Moldenke, Phytologia 19: 37. 1969; Satake in Hara, Univ. Mus. Univ. Tokyo 2: 159. 1971; Moldenke, Fifth Summ. 1: 274 (1971) and 2: 935. 1971.

Ruhland (1903) erroneously dates the original publication of this species as "1894", but pages 449--672 of Hooker's work were actually published in 1893.

ERIOCAULON EBERHARDTII H. Lecomte, Not. Syst. 2: 215. 1912.

Additional bibliography: Moldenke, Phytologia 20: 406. 1970; Moldenke, Fifth Summ. 1: 300 (1971) and 2: 935. 1971.

ERIOCAULON ECHINACEUM Van Royen, Blumea 10: 131--132, fig. 1D. 1960.

Additional bibliography: Moldenke, Phytologia 20: 406. 1970;

Moldenke, Fifth Summ. 1: 323 (1971) and 2: 935. 1971.

ERIOCAULON ECHINOSPERMOIDEUM Ruhl. in Fedde, Repert. Spec. Nov. 22: 31. 1925.
Additional bibliography: Moldenke, Phytologia 20: 406. 1970; Moldenke, Fifth Summ. 1: 96 (1971) and 2: 935. 1971.

ERIOCAULON ECHINOSPERMUM C. Wright ex Sauv., Anal. Acad. Ci. Habana 7: 716. 1871.
Additional bibliography: Moldenke, Phytologia 20: 406. 1970; Moldenke, Fifth Summ. 1: 96 (1971) and 2: 935. 1971.

ERIOCAULON ECHINULATUM Mart. in Wall., Plant. Asiat. Rar. 3: 29. 1832.
Additional synonymy: Eriocaulon echimulatum Heyne apud Ruhl. in Engl., Pflanzenreich 13 (4-30): 106. 1903.
Additional bibliography: Fyson, Journ. Indian Bot. 1: 50. 1919; Moldenke, Phytologia 20: 406. 1970; Hansen, Dansk Bot. Arkiv 27: [31] & 33, fig. 2 d—f. 1969; Moldenke, Fifth Summ. 1: 283, 285, 288, 295, 300, 316, & 336 (1971) and 2: 499 & 935. 1971; Shehata, Biol. Abstr. 53: 4689. 1972; Anon., Biol. Abstr. 53 (9): B.A.S.I.C. S.87. 1972.
Additional illustrations: Hansen, Dansk Bot. Arkiv 27: 33, fig. 2 d—f. 1969.
Recent collectors have found this plant in flower and fruit in November (in addition to the months previously reported by me in this series of notes).
Additional citations: THAILAND: Charoenphol, Larsen, & Warncke 4693 (Ac).

ERIOCAULON EDWARDII Fyson, Journ. Indian Bot. 1: 50, hyponym (1919) and 2: 313, pl. 34. 1921.
Additional & emended bibliography: Fyson, Journ. Indian Bot. 1: 50 & 53. 1919; Moldenke, Phytologia 20: 406. 1970; Moldenke, Fifth Summ. 1: 271 & 274 (1971) and 2: 499 & 935. 1971.

ERIOCAULON EDWARDII var. CLARKEI Haines, Bot. Bihar & Orissa 6: 1071. 1924.
Additional bibliography: Moldenke, Phytologia 20: 406. 1970; Moldenke, Fifth Summ. 1: 274 (1971) and 2: 935. 1971.

ERIOCAULON EHRENBERGIANUM Klotzsch ex Körn. in Mart., Fl. Bras. 3 (1): 491—492. 1863.
Additional bibliography: Moldenke, Phytologia 20: 406. 1970; Moldenke, Fifth Summ. 1: 69, 79, & 83 (1971) and 2: 493, 494, 506, 507, 512, 792, & 935. 1971.

ERIOCAULON EKMANNII Ruhl. in Fedde, Repert. Spec. Nov. 22: 30. 1925.
Additional bibliography: Moldenke, Phytologia 20: 407. 1970; Moldenke, Fifth Summ. 1: 96 (1971) and 2: 499 & 935. 1971.

[to be continued]